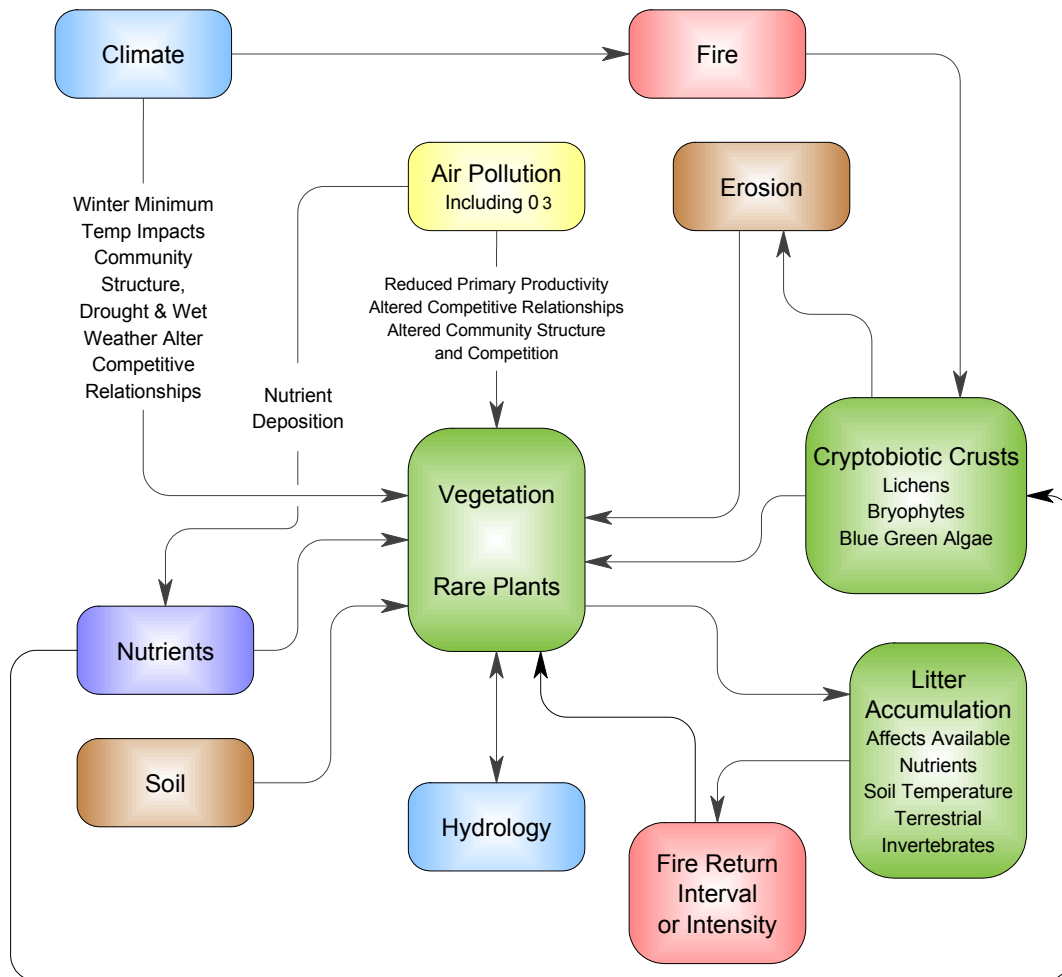


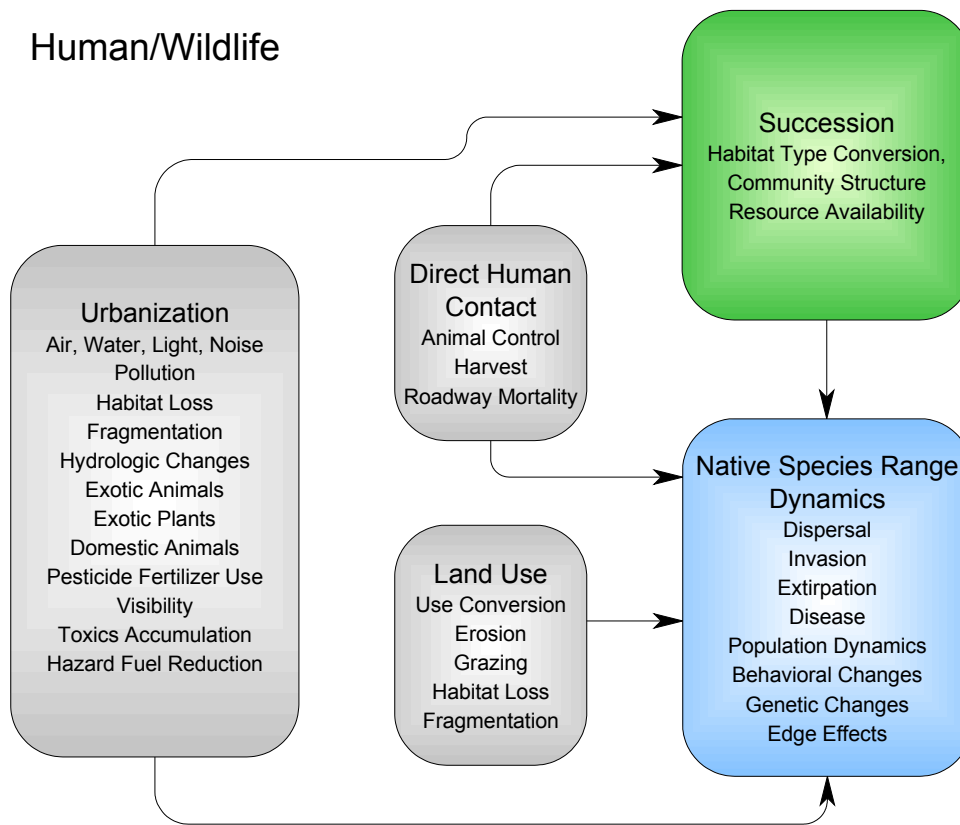
## Appendix VIII – Santa Monica Mountains Sub-models

### Climate/Cryptobiotic Crusts/Vegetation



Interrelationships of climate, cryptobiotic crusts, and vegetation within the Santa Monica Mountains, this model was suggested by the vegetation sub-group's discussion at the vital signs workshop held in the Santa Monica Mountains in December of 2002.

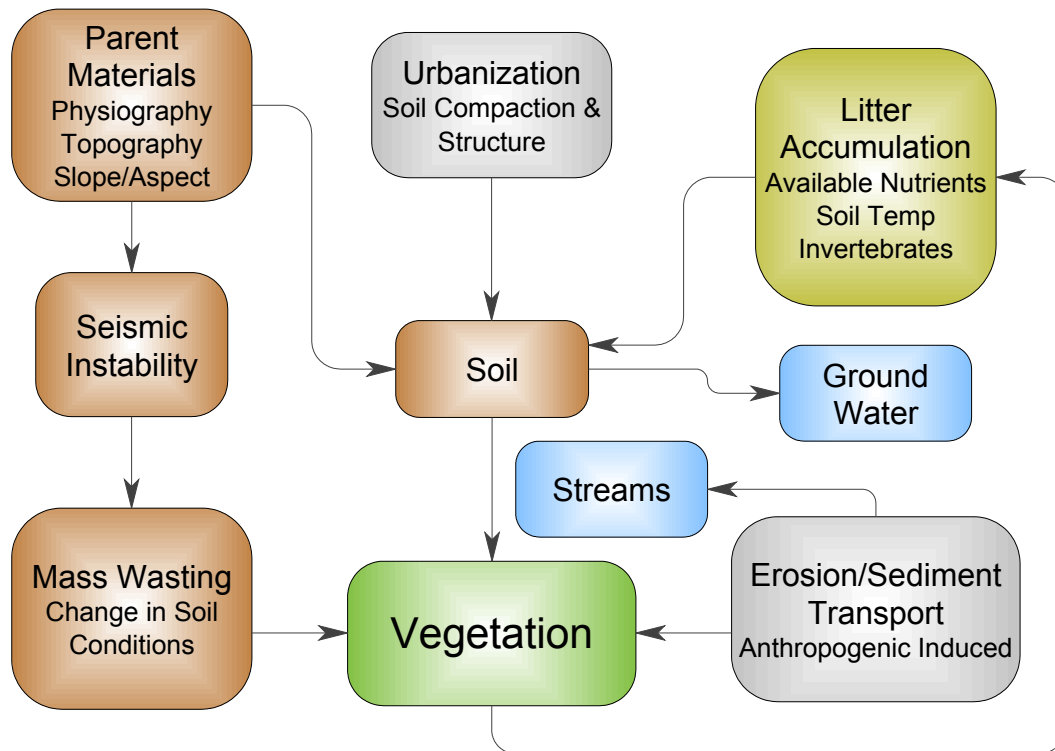
## Appendix VIII – Santa Monica Mountains Sub-models



In the highly developed and urbanized environment of the Los Angeles area the interactions of human activities with wildlife play a significant role in structuring all native communities and in defining the impacts most likely to trigger community level changes within the fragmented and nearly isolated natural open space of the Santa Monica Mountains. This model was proposed by the vegetation sub-group at the Santa Monica Mountains vital signs

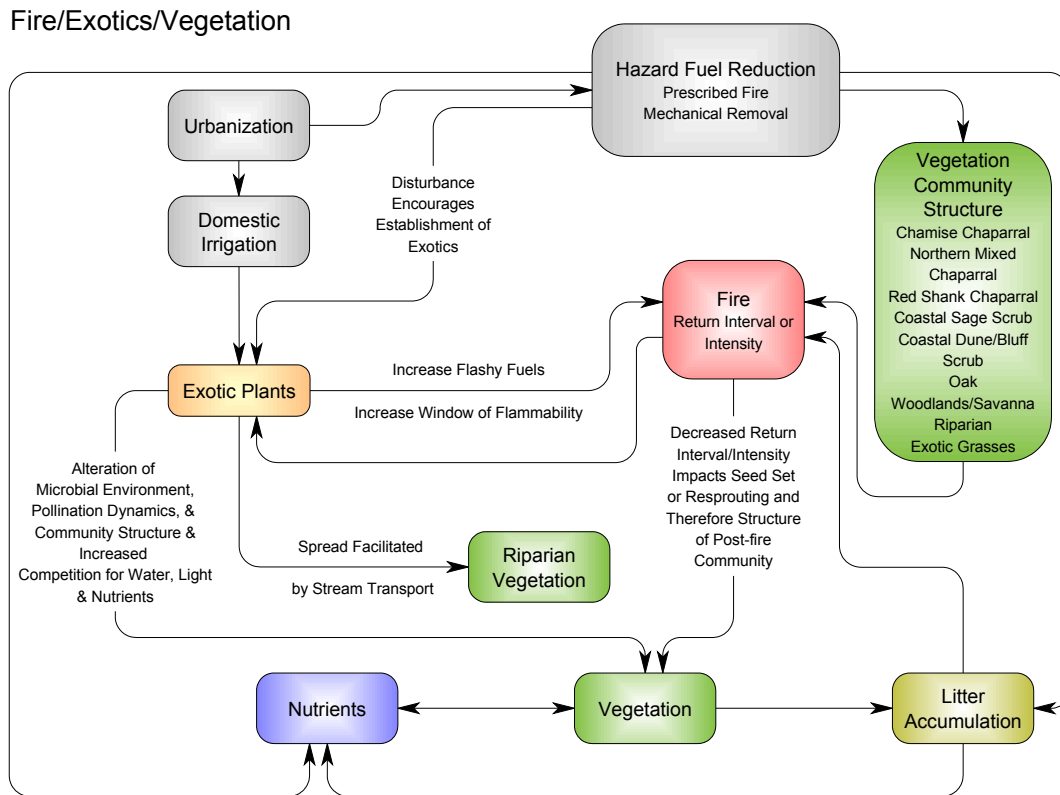
## Appendix VIII – Santa Monica Mountains Sub-models

### Geology/Soils/Vegetation



Important relationships of geomorphology to vegetation, litter accumulation and some significant anthropogenic impacts within the Santa Monica Mountains. Model proposed by Rocks, Water, & Mud sub-group at vital signs workshop, December 2002.

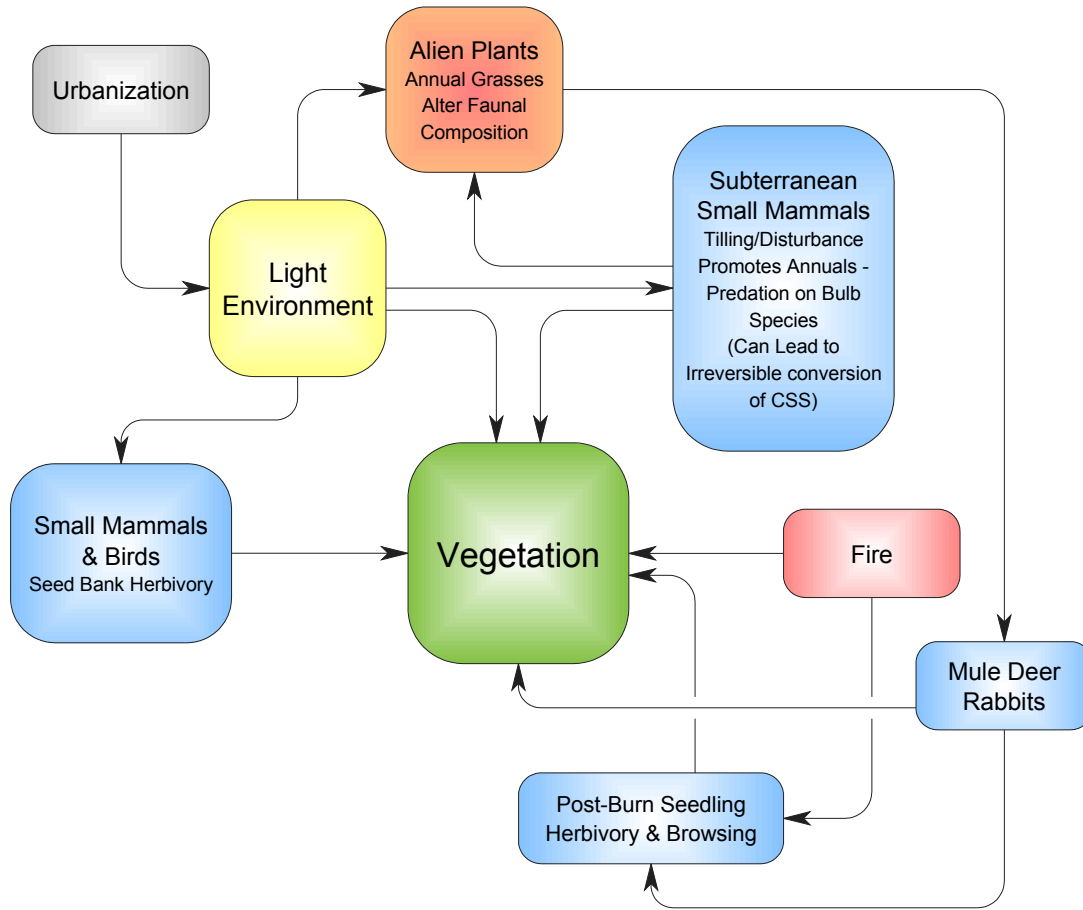
## Appendix VIII – Santa Monica Mountains Sub-models



Influence of fire and human response to fire on the vegetation of the Santa Monica Mountains. This model of fire impact was proposed at the vital signs workshop held in December of 2002. Model proposed by Vegetation sub-group at vital signs workshop December 2002, chaired by John Tiszler. The discussion group participants felt that the microbial environment should be a state condition rather than a system modifier. Fire and fire return interval need to be reconciled and perhaps combined into a single factor. Prescribed fire and mechanical removal of fire prone vegetation should be treated separately, although the mechanisms for doing this were not specified.

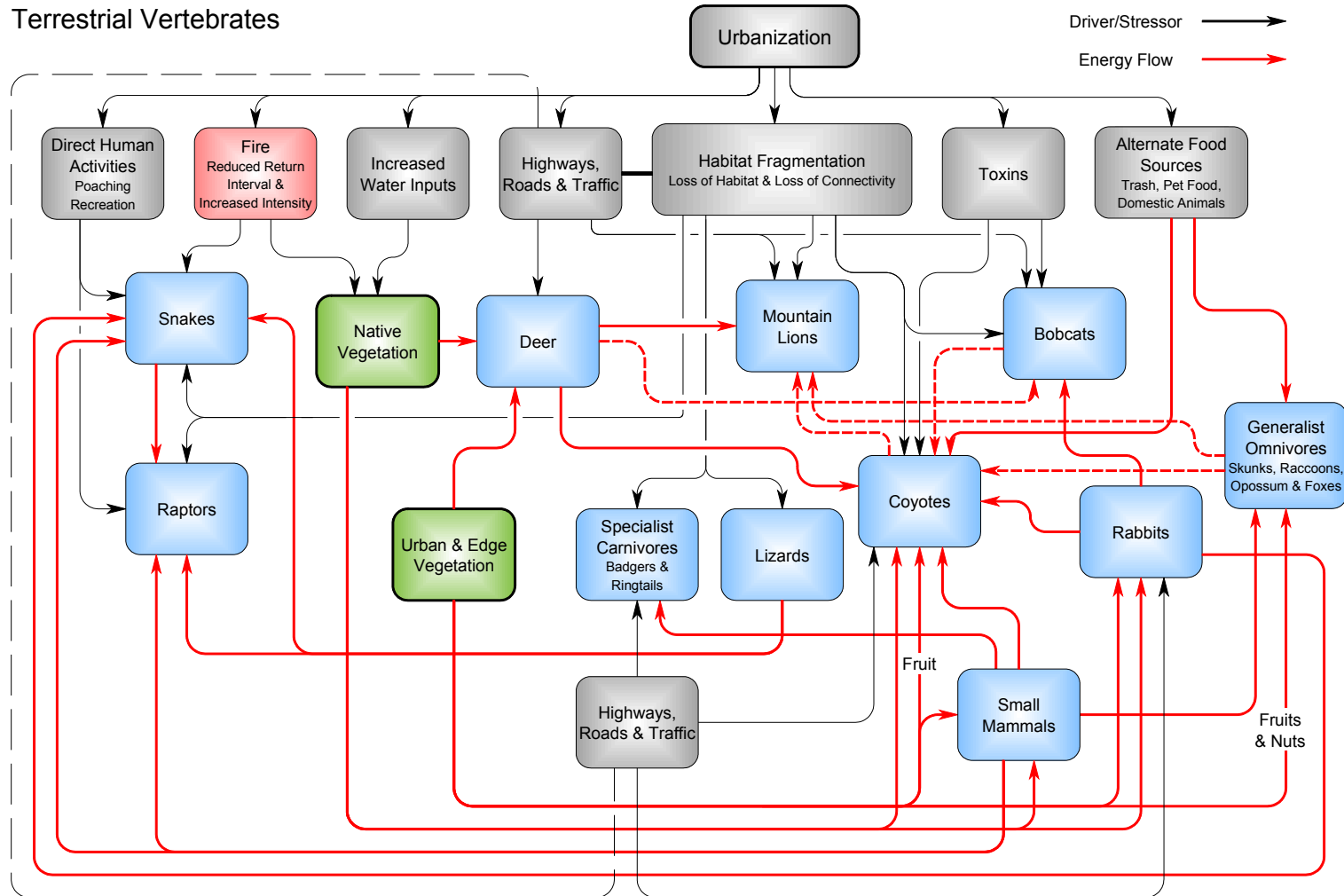
## Appendix VIII – Santa Monica Mountains Sub-models

### Fauna/Vegetation



A view of the interaction of significant ecosystem elements acting in conjunction with fauna on the vegetation of the Santa Monica Mountains. Model proposed by Vegetation sub-group at vital signs workshop December 2002, chaired by John Tiszler. Fire and post-burn seedling mortality are thought to be an interactive process in their effects on vegetation.

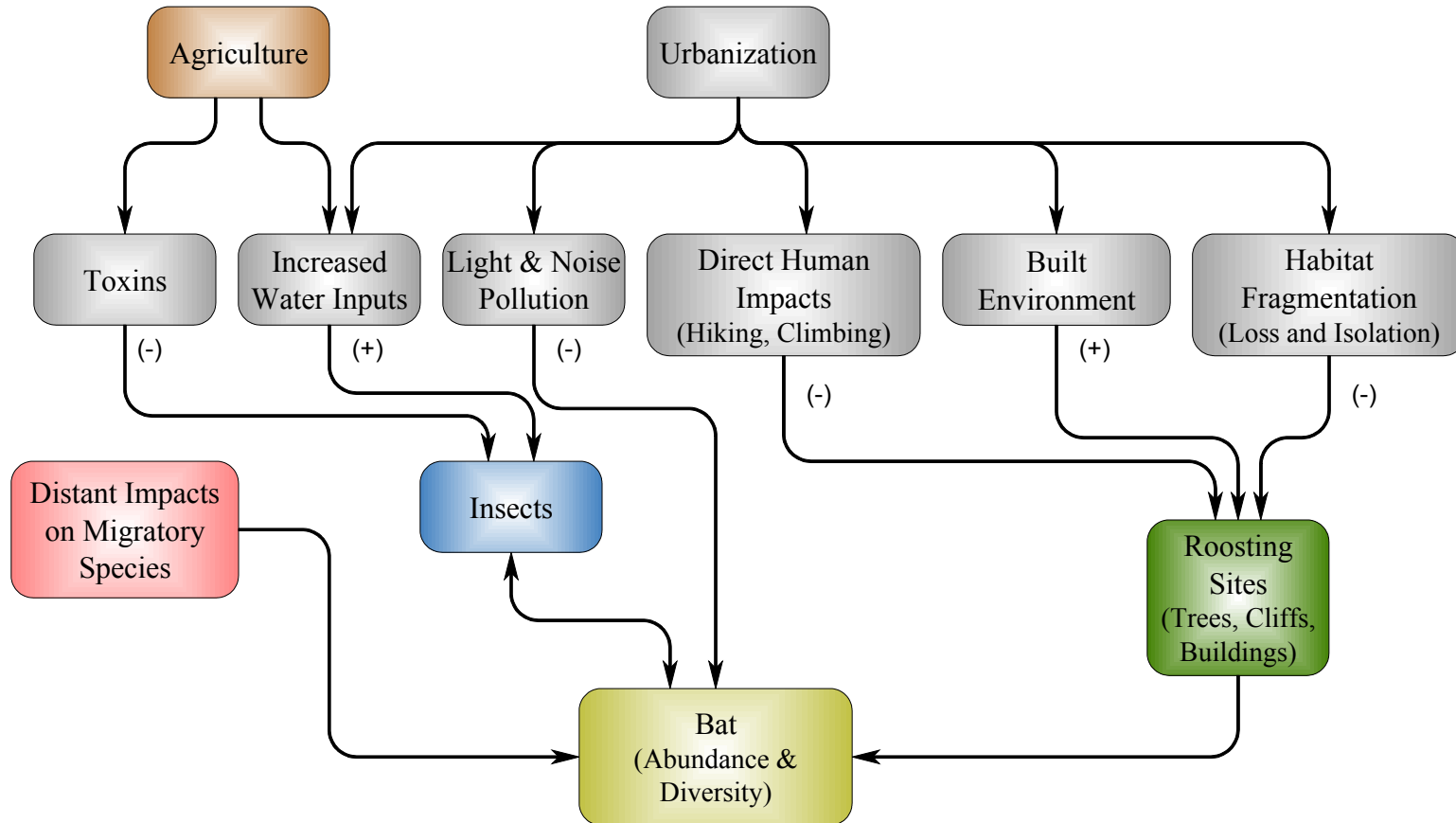
## Appendix VIII – Santa Monica Mountains Sub-models



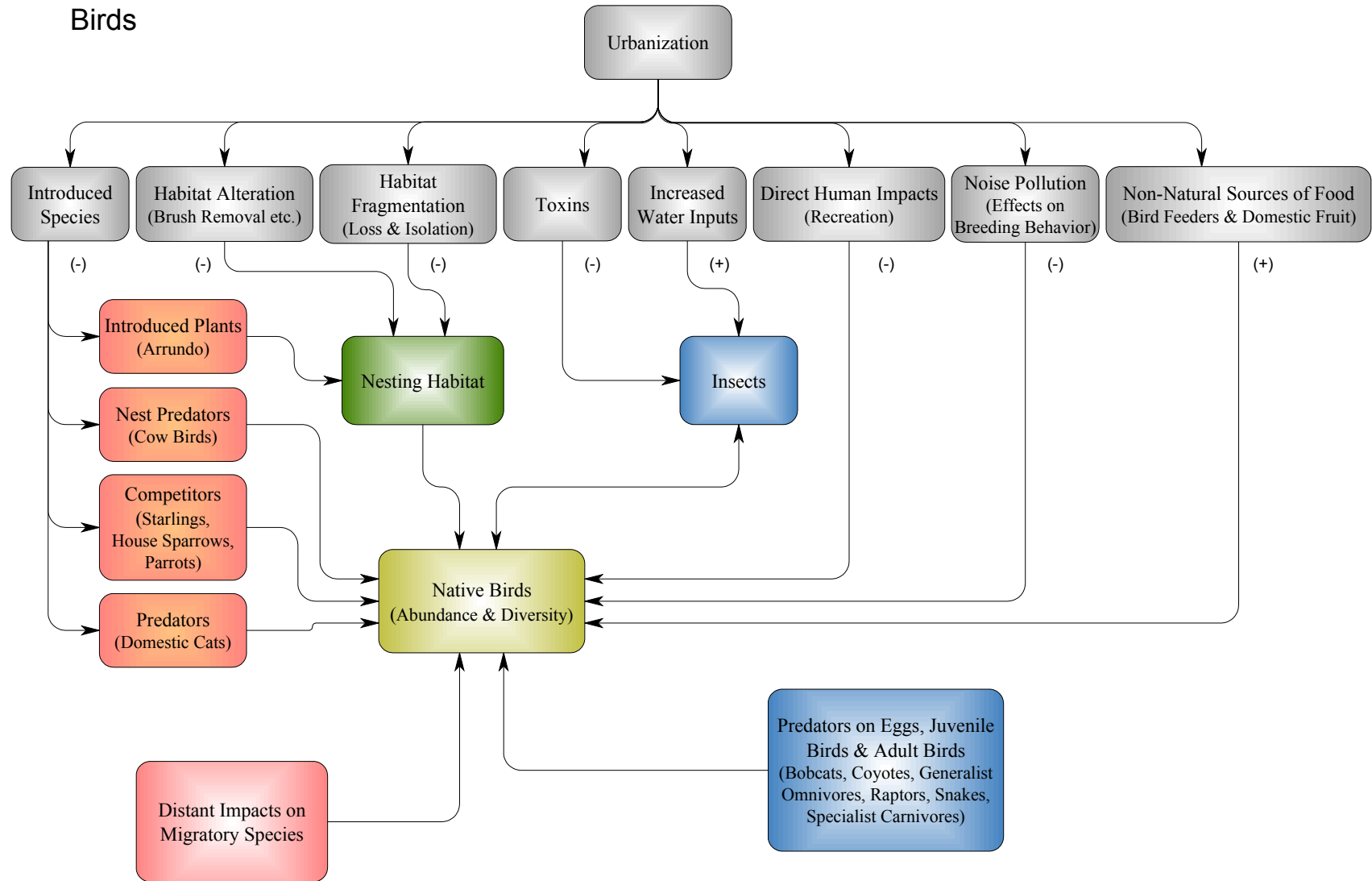
Interrelations of important anthropogenic influences on the terrestrial vertebrates of the Santa Monica Mountains. Also presented are the important energy flow relations among terrestrial vertebrates and native vegetation and urban and edge vegetation. Model proposed by Seth Riley chair of the wildlife sub-group at the Santa Monica Mountains Vital Signs Workshop held in December of 2002.

## Appendix VIII – Santa Monica Mountains Sub-models

### Bats



## Appendix VIII – Santa Monica Mountains Sub-models





## Appendix VIII – Santa Monica Mountains Sub-models

### Birds and Bats:

Habitat loss and fragmentation, habitat alteration, toxins, introduced species, and introduced food sources, are important factors affecting birds and bats in the Santa Monica Mountains. Birds and bats have very specific nesting requirements. Suitable undisturbed nesting habitat is critical for successful reproduction. Because of their size and ability to fly, bats and many bird species utilize some resources that are rarely if ever used by terrestrial animals, specifically flying insects. Both groups are also sensitive to human disturbance from sensory pollution such as noise and light. Bat roosting behavior can be quite sensitive to human presence. Birds in noisy urban areas may alter their songs from those in areas with more natural soundscapes. The ability to fly allows both birds and bats to migrate long distances for breeding or over-wintering. Consequently, the diversity and abundance of both groups can be significantly affected by factors that are far removed from the local area, and may well be unknown to local resource managers. This can make effective conservation efforts very difficult.

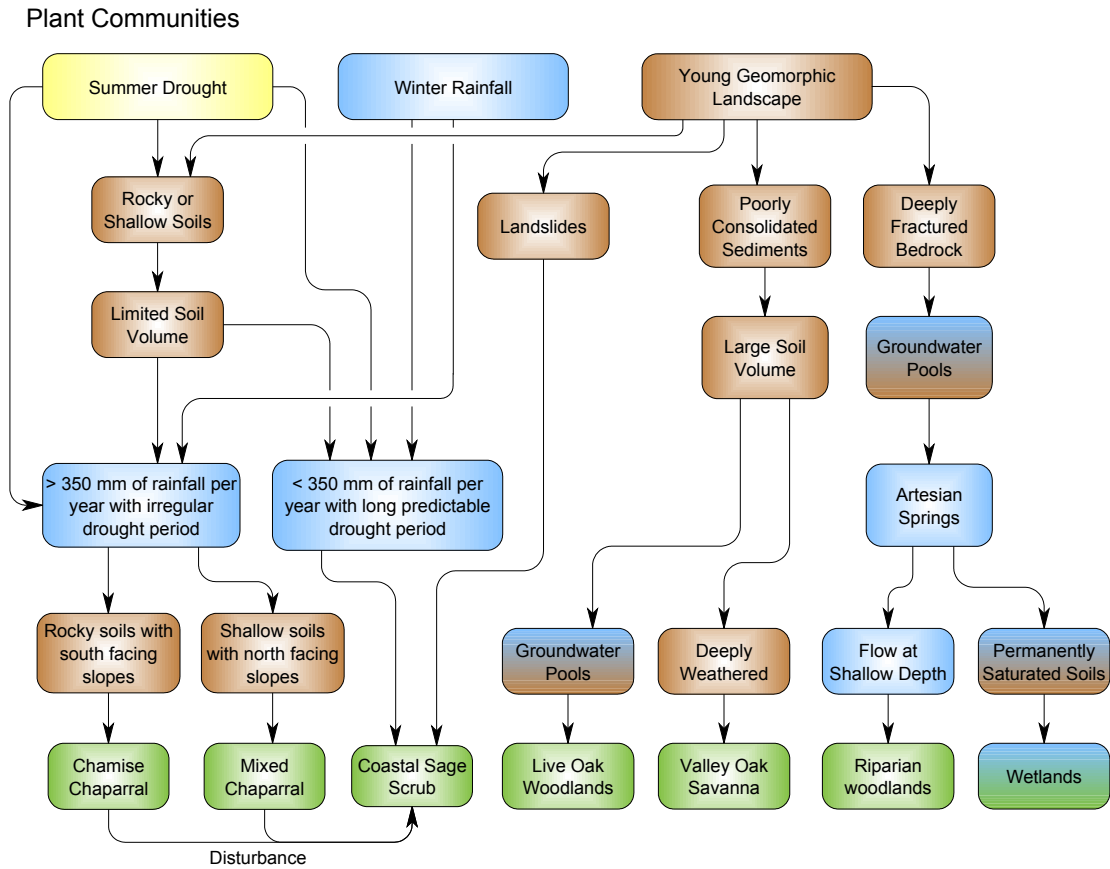
Birds, in particular, are impacted by non-native species. Introduced predators such as domestic cats are very effective bird predators, while non-native bird species are important both as resource competitors, such as starlings or house sparrows, or as nest parasites as in the case of cowbirds. Finally, specific nesting requirements can be affected, both negatively and positively, by vegetation community transformations that take place with the incidental or deliberate introduction of non-native or exotic plant species. *Arundo* and *Eucalyptus* trees can completely transform native communities where they become established, particularly in riparian areas. Successful nesting of many bird species can be affected by changes such as these. Additionally, many birds are an important part of the prey base for various terrestrial vertebrates and raptors, whether as juveniles, adults, or eggs.

The bats and birds models were proposed by Seth Riley, chairman of the wildlife sub-group at the Santa Monica Mountains vital signs workshop.

## Appendix VIII – Santa Monica Mountains Sub-models

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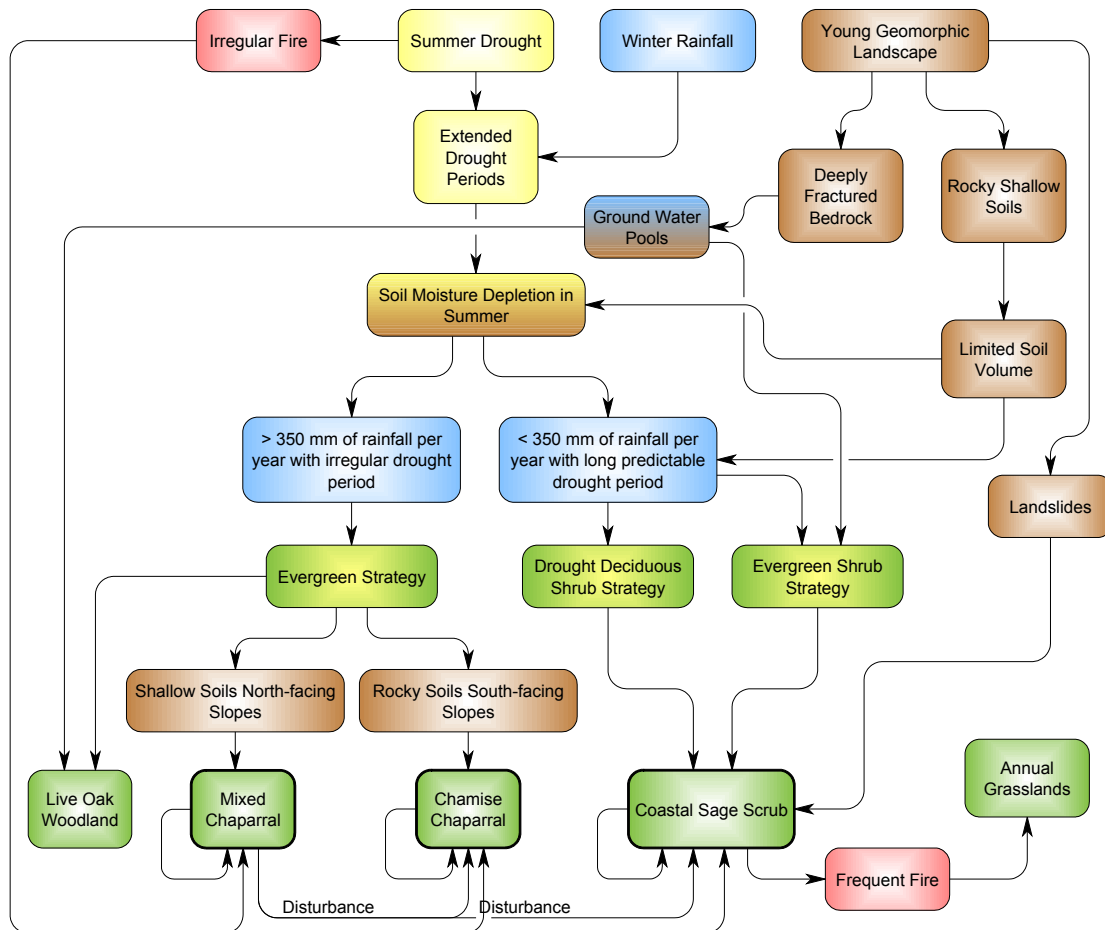
# Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA



Model of plant community ecology in the Santa Monica Mountains. Water availability and geomorphology are the most significant factors determining vegetation community characteristics with the mountains. Model proposed by Phil Rundel.

## Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA

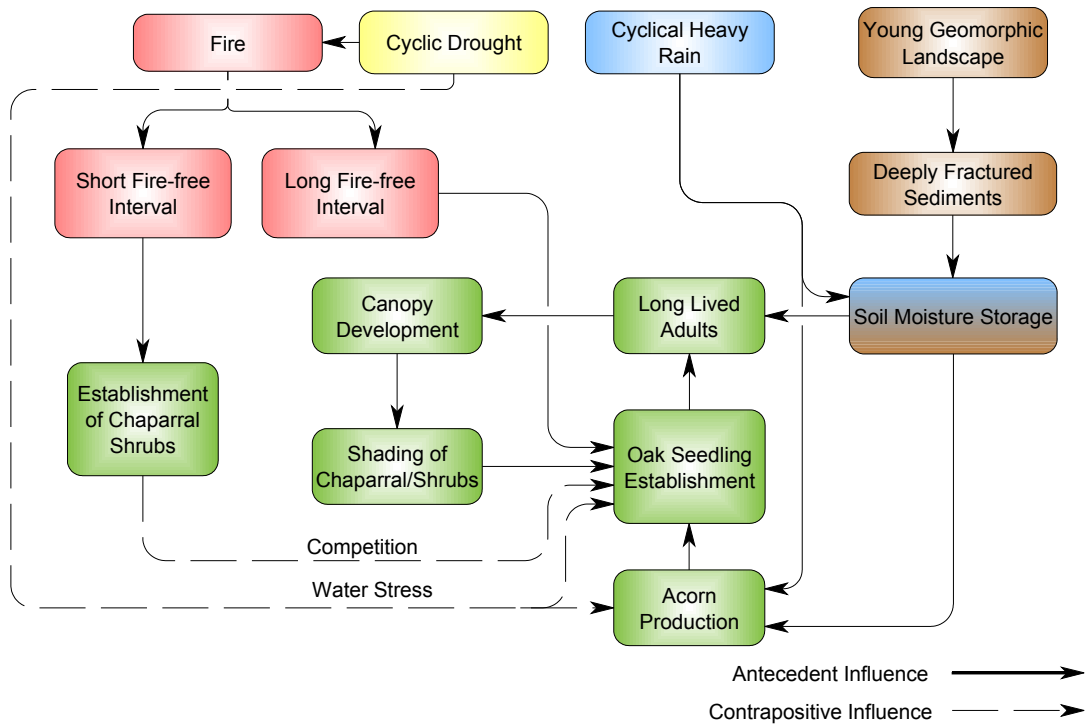
## Chaparral & Coastal Sage Scrub



Chaparral and coastal sage scrub distribution are heavily effected by rain fall and geomorphology. Model proposed by Phil Rundel.

# Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA

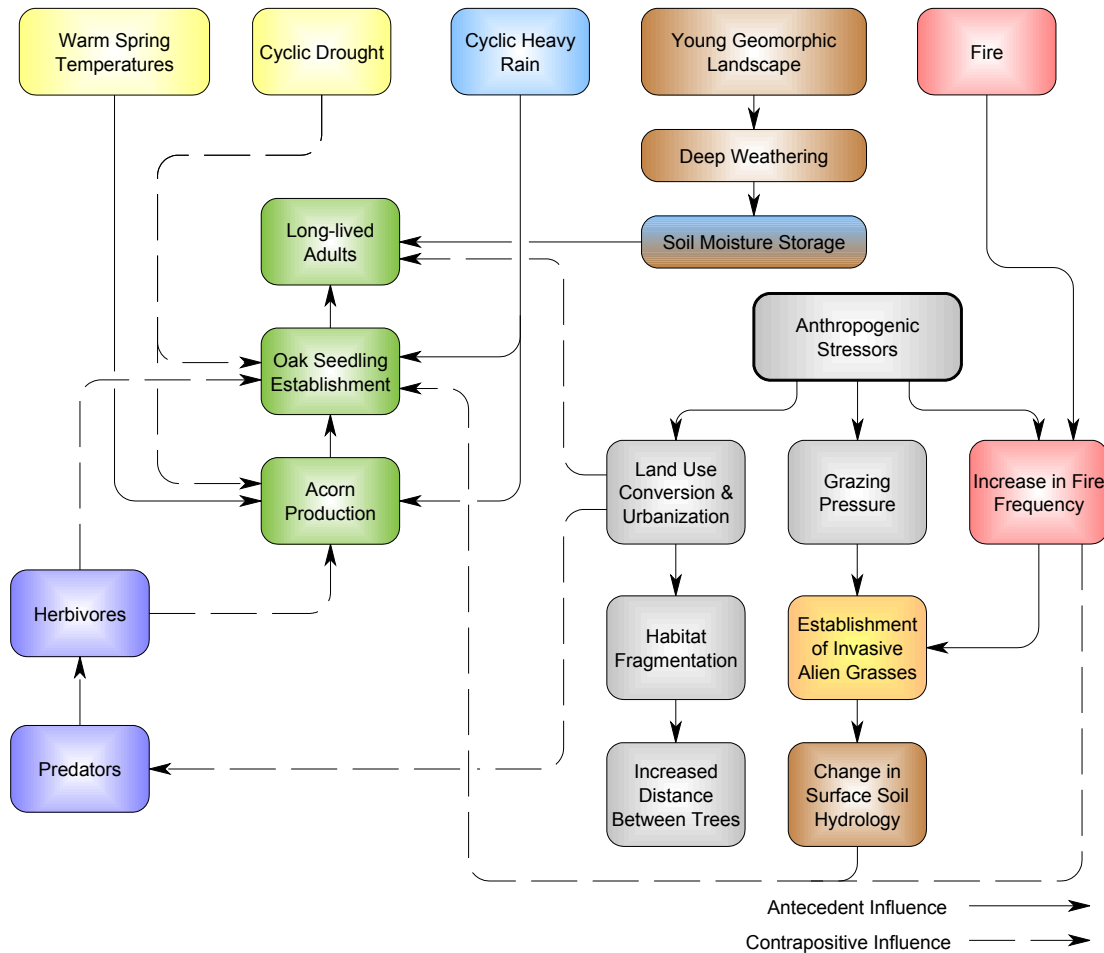
## Live Oak Woodlands



Interactions of fire, precipitation, geomorphology, soil moisture, and community structure on the ecology of Live Oak Woodlands in the Santa Monica Mountains. Model proposed by Phil Rundel.

# Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA

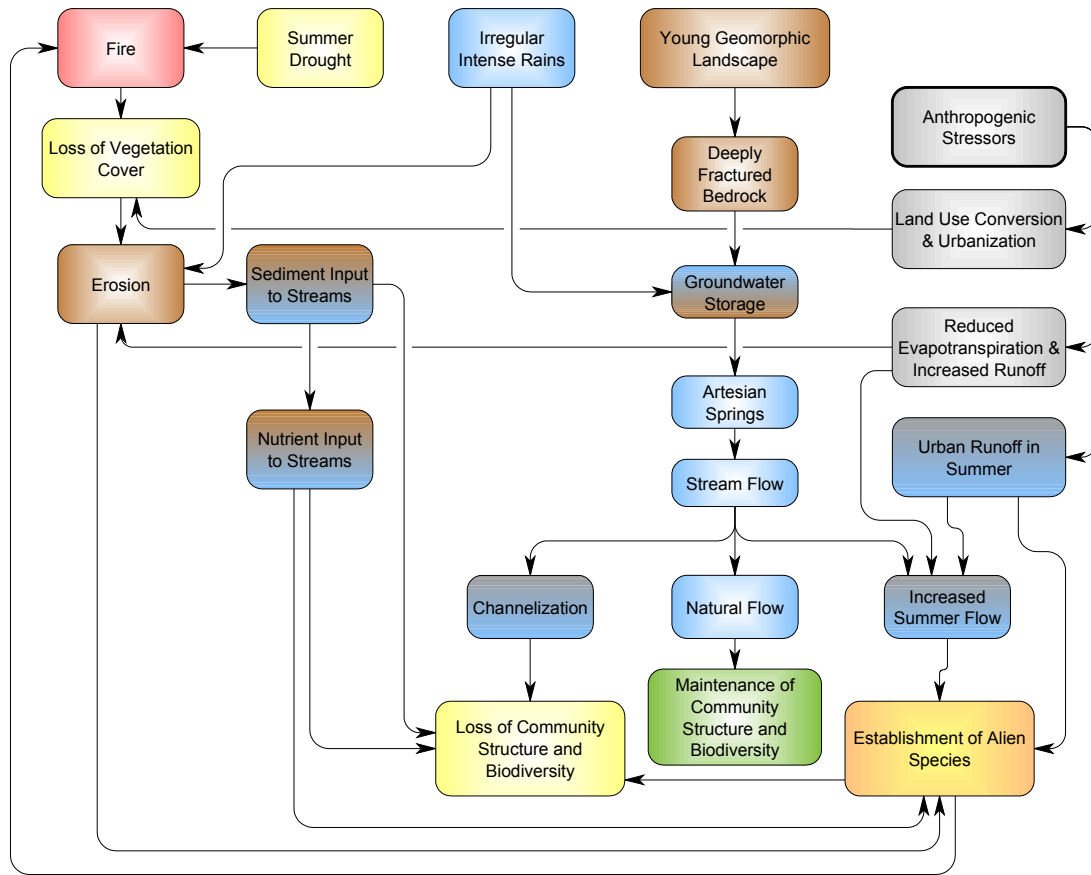
## Valley Oak Savanna



Interaction of temperature, drought, precipitation, geomorphology, soil moisture, fire, and anthropogenic impacts on the ecology of Valley Oak community structure in the Santa Monica Mountains. Model proposed by Phil Rundel.

# Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA

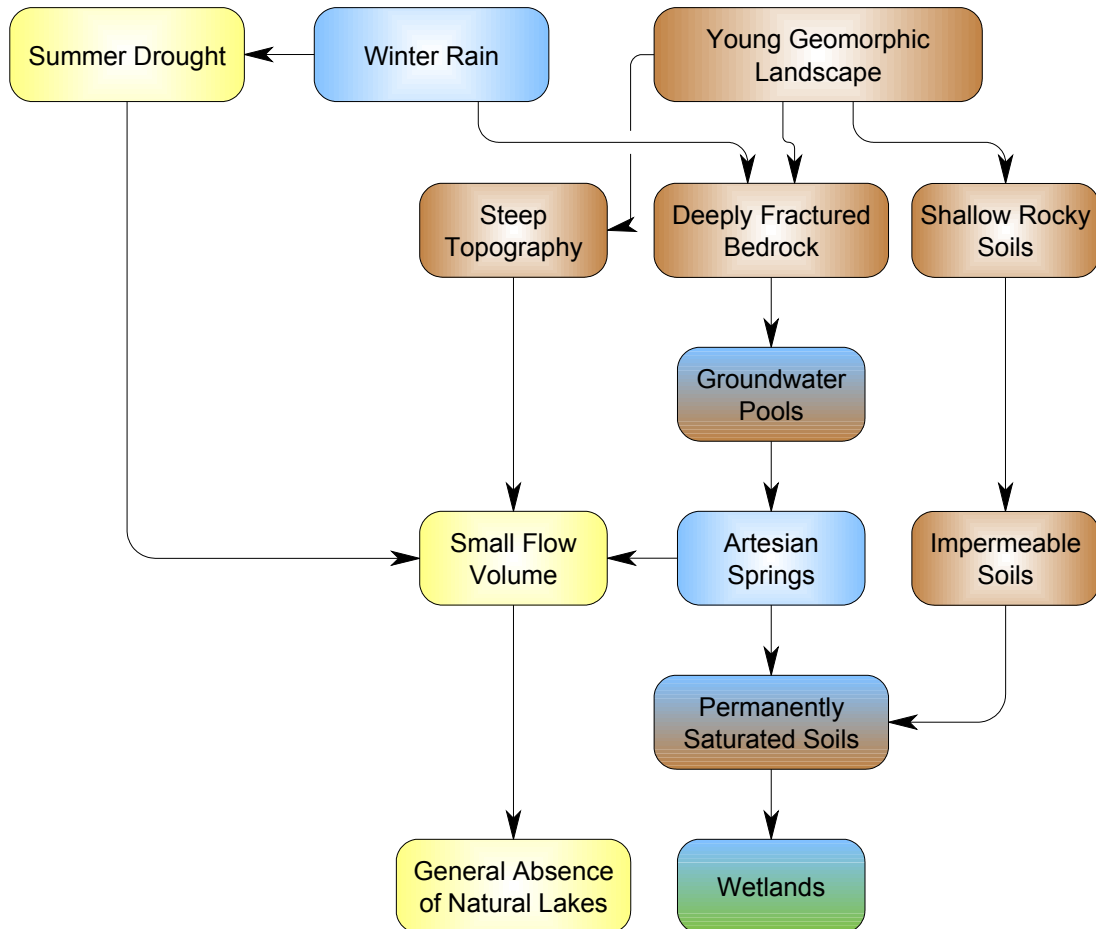
## Riparian Corridors



Interrelationships of fire, drought, precipitation, geomorphology, ground water, and anthropogenic impacts on the ecology of riparian corridors within the Santa Monica Mountains.

## Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA

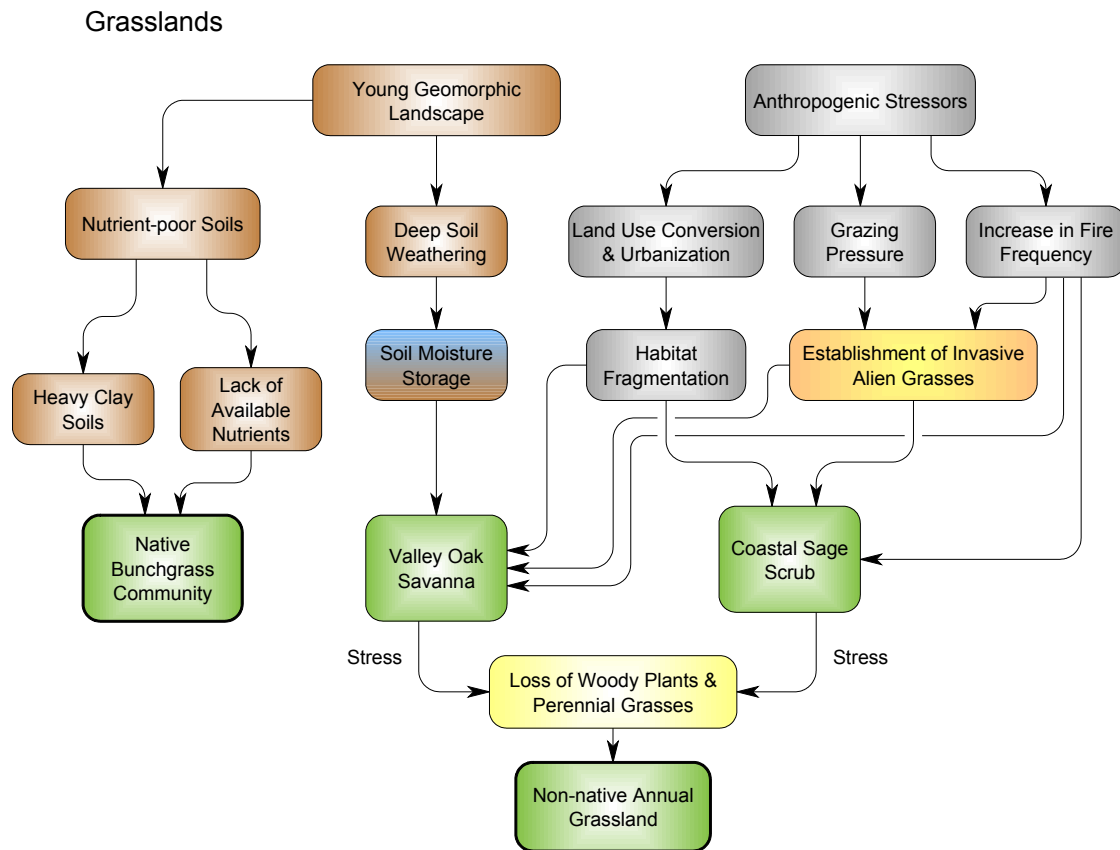
### Freshwater Wetlands



Interrelationships of drought, precipitation, and geomorphology on the ecology of wetlands in the Santa Monica Mountains. Model proposed by Phil Rundel.

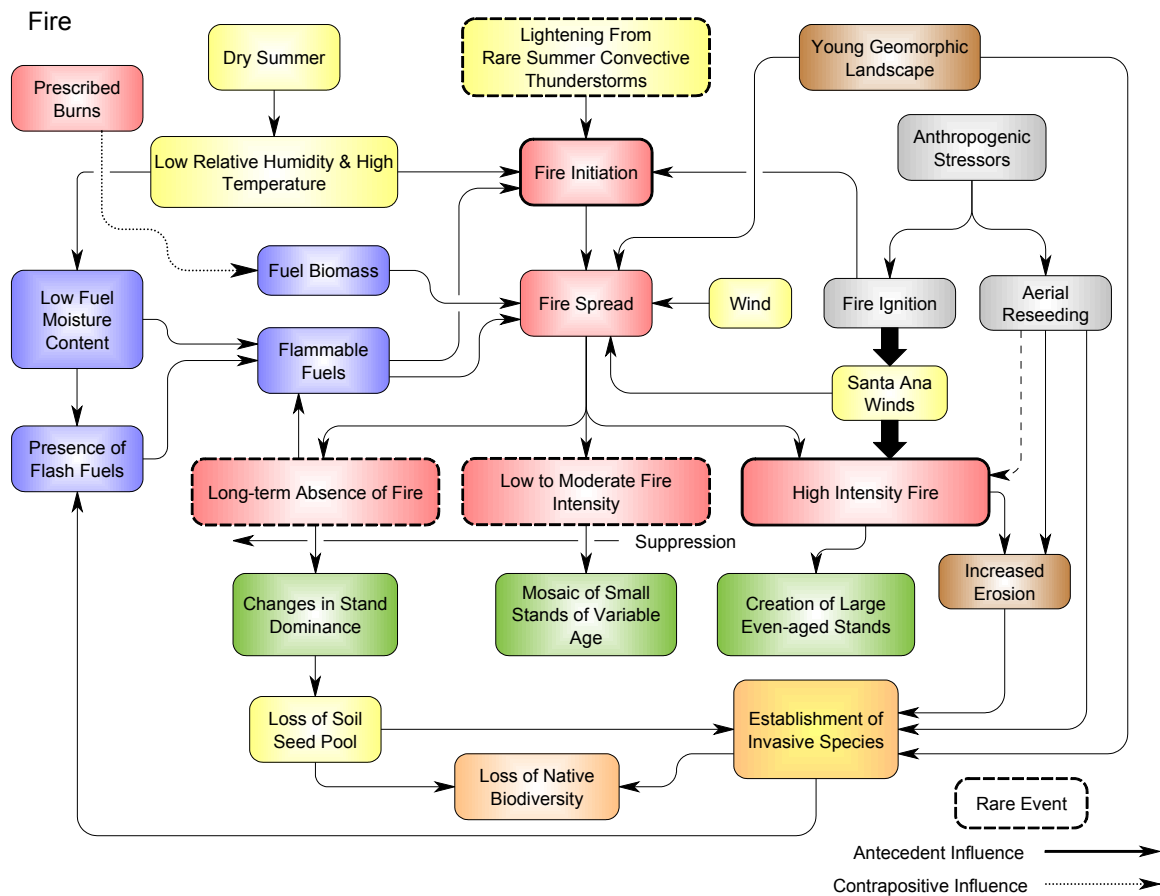


# Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA



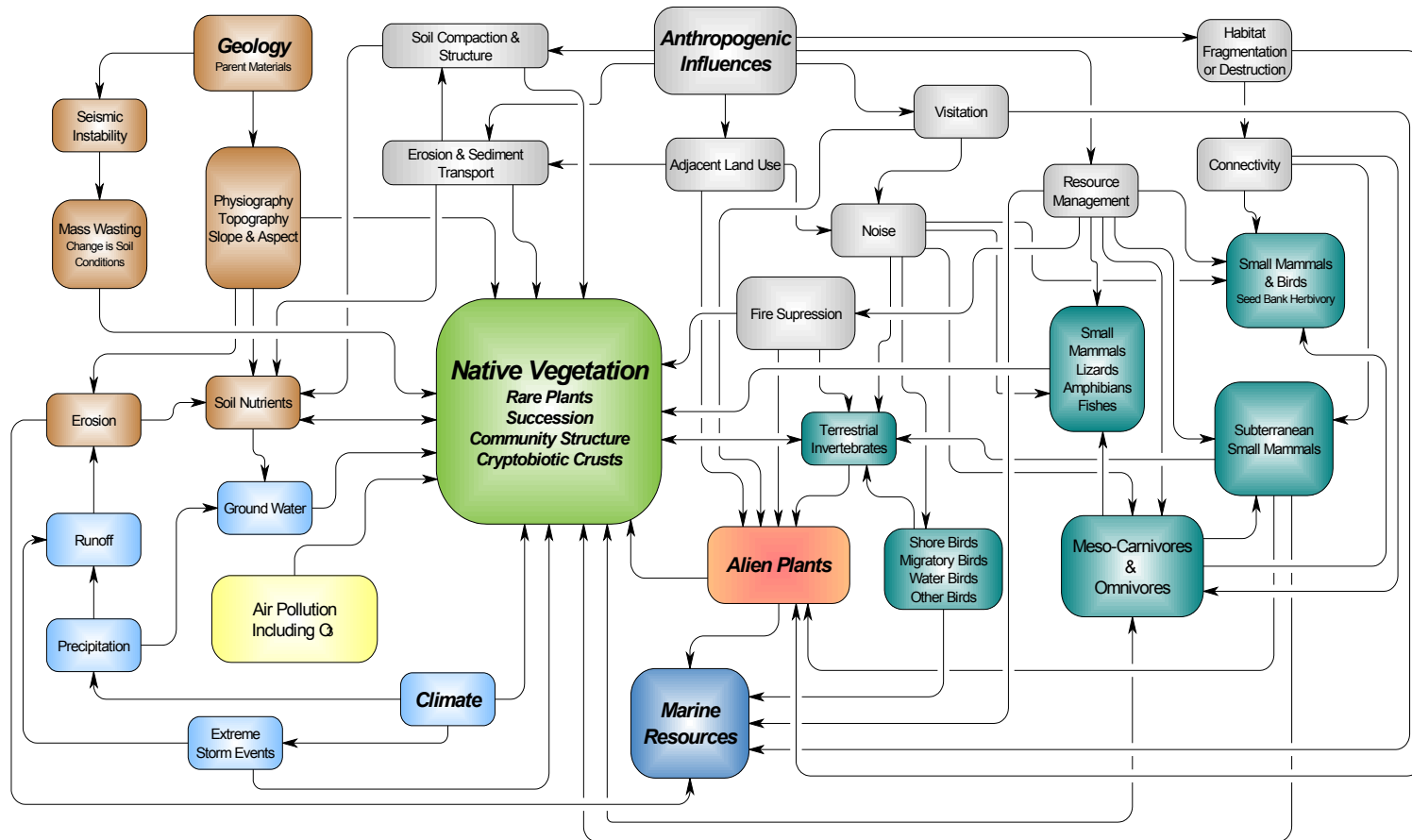
Interrelationships of geomorphology and anthropogenic impacts on the ecology of grassland communities in the Santa Monica Mountains. Model proposed by Phil Rundel.

## Appendix IX – Santa Monica Mountains Sub-models as Proposed by Phil Rundel of UCLA



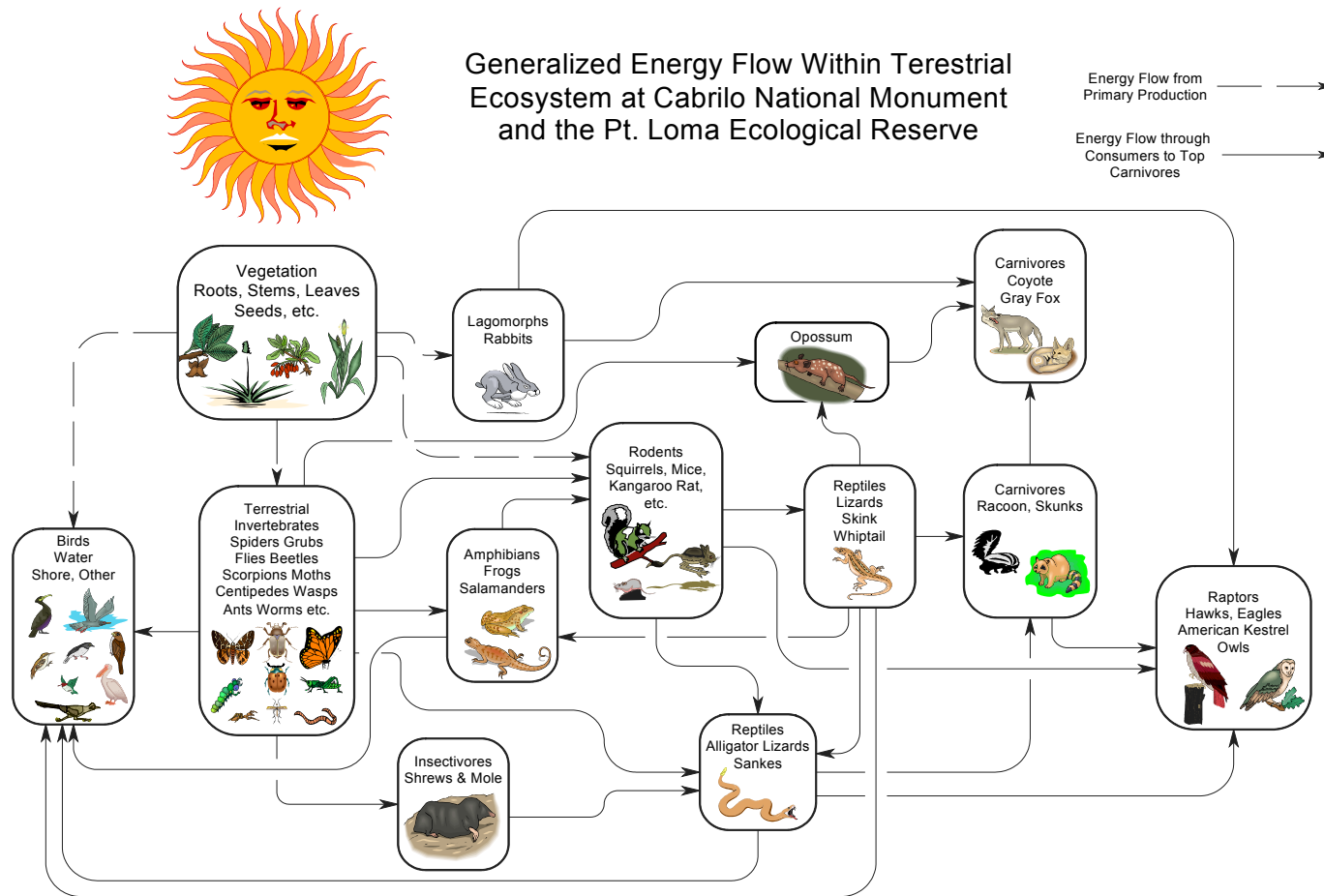
Interrelationships of fire dynamics, summer weather patterns, and anthropogenic impacts in the Santa Monica Mountains. Model proposed by Phil Rundel.

## Appendix X – Cabrillo National Monument Sub-models



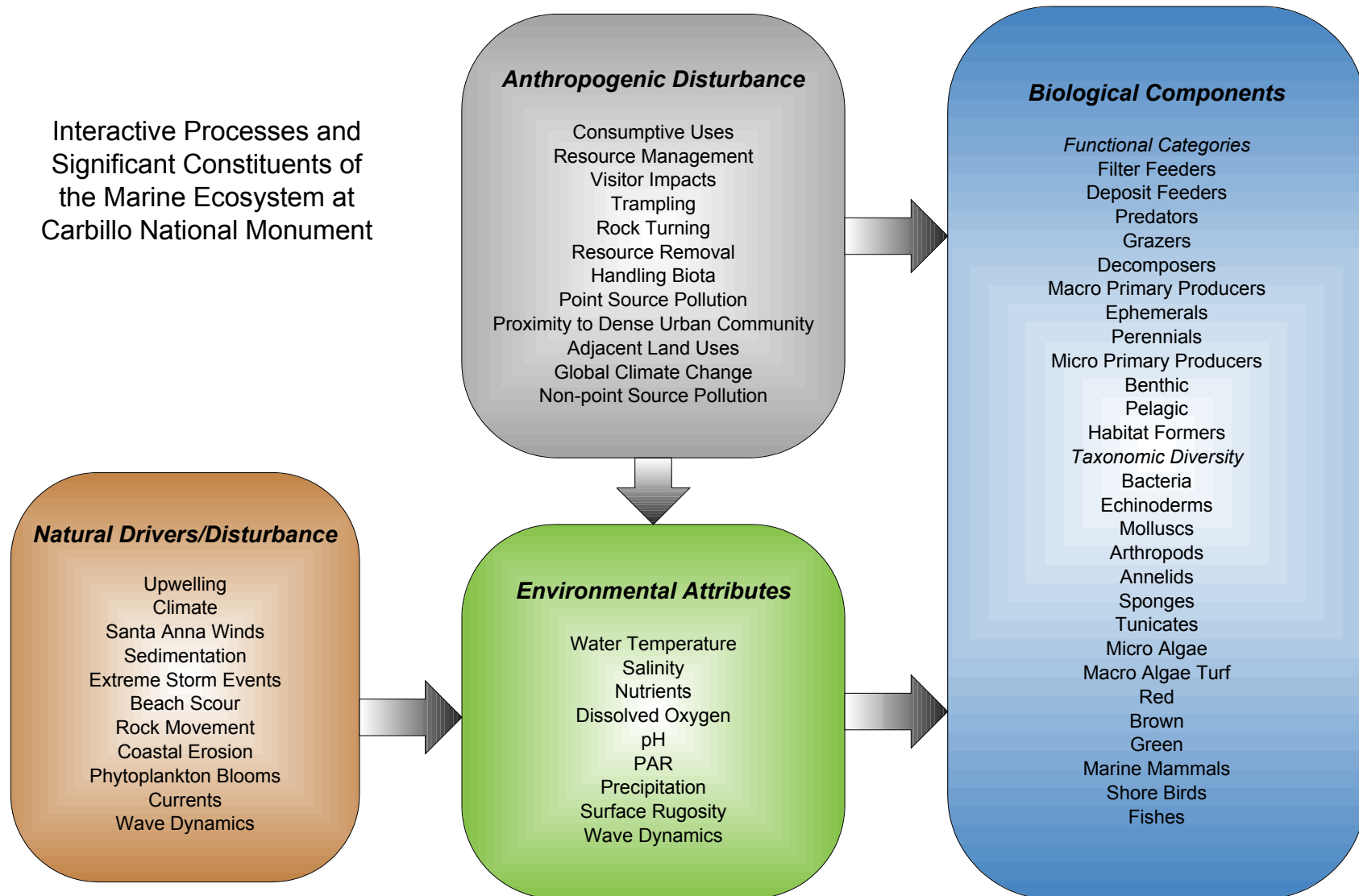
A generalized conceptual ecosystems model for Cabrillo National Monument. The major factors impacting ecosystem structure and function include: anthropogenic influences, geomorphology, wildlife, and climate are all focused on the native vegetation community which provides the defining characteristics of the terrestrial ecosystem. The marine component is underrepresented in this graphic and is presented in greater detail in later models.

## Appendix X – Cabrillo National Monument Sub-models

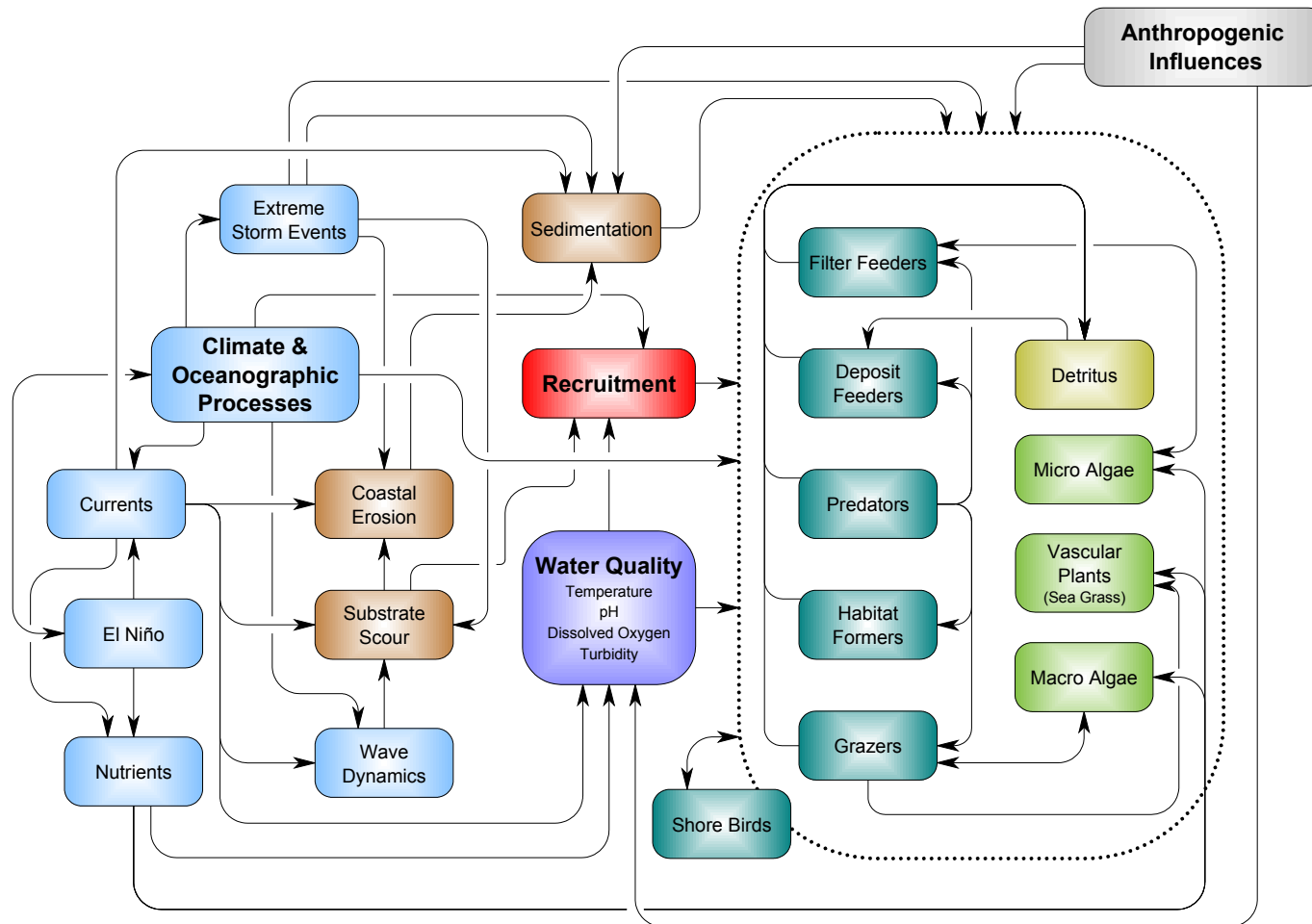


Energy flow within Cabrillo National Monument mimics that of the Santa Monica Mountains except that there are fewer elements due to the much smaller size of the park and its isolation from other open space. Cabrillo NM is bounded on three sides by the Pacific Ocean and on the remaining side by a highly developed military reservation.

## Appendix X – Cabrillo National Monument Sub-models



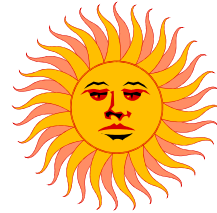
## Appendix X – Cabrillo National Monument Sub-models



Detailed graphic showing the relationship of climate, geomorphology, anthropogenic influences on the intertidal flora and fauna of Cabrillo National Monument.

## Appendix X – Cabrillo National Monument Sub-models

Graphic description of faunal interactions and energy flow in the Marine Intertidal at Cabrillo National Monument.



### Energy Flow in the Marine Ecosystem at Cabrillo National Monument

